Human leukocyte antigen class II genetic variants are highly associated with rheumatic heart disease in Yemeni patients

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Background: Human leukocyte antigen (HLA) class II polymorphisms have been reported as a risk factor for rheumatic heart disease (RHD); however, the predisposing HLA genetic variants were different in various populations.

The aim of the study: The aim of the study was to investigate the association of RHD with HLA class II alleles in Yemeni patients.

Methods: HLA-DRB1 and-DQB1 polymorphisms were genotyped by PCR-SSOP reverse dot blot hybridization in 100 RHD patients and 50 healthy subjects with normal echocardiography (control group).

Materials and methods: *Subjects:* Yemeni RHD patients aged . . .14 and 45 years who attended the outpatient clinic at Al-Thawra Hospital for treatment were asked for participated in this study. One hundred RHD patients (57 females, 43 males) were freely participated (case group). Gender and age matched healthy subjects aged—18 and 47 years in the same geographical area of the patients were invited to participate in this study (control group). Fifty healthy individuals (28 females, 22 males) were freely participated. Venous blood, 3–4 ml was collected from each participant after obtaining the signed consent form. Echocardiogram was done for each patient to confirm the clinical finding of RHD. The healthy subjects were also subjected to echocardiograms to exclude asymptomatic RHD cases.

HLA class II genotyping Genomic DNA was extracted from peripheral blood leukocytes using PureLink Genomic DNA kit (invitrogen, USA). HLA class II DRB1 and DQB1 genotypes were carried out using sequence-specific oligonucleotide-probe polymerase chain reaction, Dynal RELI SSOP HLA-DRB1 and HLA-DRB1 kits, respectively (Invitrogen, USA).

Statistical analysis: Frequency of HLA-DRB1 and HLA-DQB1 alleles were compared between the patients and the controls using the chi-square test. The p value and odds ratio (OR) were calculated using SPSS software, version 12, with 95% confidence intervals and Fisher exact correction for small numbers.

Results: The results showed that HLA-DRB1∗07 and HLA-DQB1∗0203 allele were risk factors for RHD ($P = 0.005$, OR = 4; $P = 0.02$, OR = 8.7, respectively). In contrast, the HLA-DRB1∗11, HLA-DQB1∗0305 and HLA-DQB1∗0602 alleles showed a protection against RHD ($P = 0.01$, OR = 0.32; $P = 0.03$, OR = 0.23; $P = 0.01$, OR = 0.24, respectively).

Conclusion: HLA class II genetic variants were a predisposition factor for developing RHD in Yemeni subjects. This study also replicated the association of HLA-DRB1∗07 with RHD and suggested that HLA-DQB1∗0203 allele as a risk factor for RHD.

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Gender differences in patients with out of hospital cardiac arrest – A middle eastern perspective

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Objectives: To compare the clinical characteristics, treatment and outcome in patients hospitalized following out of Hospital Cardiac Arrest (OHCA) according to gender.

Methods: Retrospective analysis of a registry of patients hospitalized with OHCA over a 20-year period (1991–2010) in Hamad Medical Corporation, Doha, Qatar.

Results: Out of 987 patients admitted with OHCA, 269 patients were female (27.3%). Compared to males, females were older (61 + 14 vs 55 + 15 years; $p = 0.001$), more likely to have diabetes (62.1% vs 35.5%; $p = 0.001$), hypertension (63.9% vs 34.7%; $p = 0.001$), chronic renal failure (12.3% vs 5.6%; $p = 0.001$) and BMI > 30 (41.2% vs 23.9%; $p = 0.02$) and less likely to be smokers (1.9% vs 26.6%; $p = 0.001$).

There was a lower incidence of STEMI in the female patients (13.8% vs 36.1%; $p = 0.001$) with no significant difference in the LV ejection fraction (35 ± 13 vs 34.5 ± 13; $p = 0.81$).

They were less likely to be treated with antithrombotic medications (heparin/LMWH: 27.9% vs 35.9%; $p = 0.02$; ASA: 47.2% vs 55.8%; $p = 0.02$; thrombolysis: 4.8% vs 17.3%; $p = 0.001$), PCI (5.2% vs 13%; $p = 0.001$) and IABP support (0.7% vs 4.7%; $p = 0.003$).

In hospital mortality was higher in the female group (65.4% vs 57.7%; $p = 0.03$).

Conclusion: There are significant differences in clinical characteristics, treatment and outcome in patients admitted with OHCA between male and female patients in our database registry.

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Diabetes, coronary artery disease and erectile dysfunction doppler study

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Objectives: To assess the role of measuring cavernosal artery blood flow as a screening tool for ischemic heart disease in patients with erectile dysfunction (ED).

Methods: A total of 303 male patients with ED were enrolled in this study. Patients were interviewed for ED using the International Index of Erectile Function. The penile vasculature was assessed using color Doppler ultrasonography and the Digital Inflection Rigidometer. All patients were referred to a cardiologist for evaluation of ischemic heart disease (IHD). All patients underwent routine laboratory investigations, plus total testosterone and prolactin assessments.

Results: Seventy-six percent of the patients had organic causes of ED. Of the 303 patients, 31.4% had different degrees of IHD. A statistically significant